

**FORMING A COMPLETE RECORD OF THE PROCEEDINGS OF ALL PUBLIC COMPANIES.**

[PRICE 6D.]

and given, upon application, personally, or by letter, to Mr. Coleman Plant, Secretary of the Board, London.







**RAILWAY STOPPED IN ROCK.**—At the meeting of the mayor, aldermen, and common council of the town of Greenwald, held last week, a proposition was read for the purpose of constructing the best line of railway for the inhabitants to petition and accept. A gentleman attended from a party to advocate the cause of the Northern Plank, and another for the central line. Much angry discussion ensued, after which a vote. Walter (we believe the late Greenwald railway manager) rose and stated, that although he had the honor of appearing at the head of a proposition, it was not to definitely lay him or party against. His only object was to put that subject to the representatives of the town of Greenwald, which was due to them; and in laying before them the proposition or summary of his plan, it was to enable them to form their own judgment of its merits, and for them to perceive that it was one that entailed at the disadvantage a private enemy could confer the rapid transit, and one that must command the patronage of his Majesty's Greenwalders, whatever, as it did, all the Rockport, Greenwald and Greenwald Roads. It would conduce to the cause the Greenwald, Greenwald, and Rockport Rds. Much opposition was expressed, and a resolution was then to be suggested, in the principle to be to co-operate in carrying the cause into effect.



**CLARENCE RAILWAY.**—Notice is hereby given, that the

**HALF YEAR DIVIDEND** on the 6 per cent. first class preferential shares, due on the 1st of May, 1941, is in course of PAYMENT at the company's office, in London and Workton-on-Tyne.

**CHARLES BENSON, Secretary.**

40, Old Broad-street, May 1.

**GREAT WESTERN RAILWAY.**—On WEDNESDAY, the 1st of May, 1941, the RAILWAY will be COMPLETED to EKKER, and the ALTERATIONS for the SUMMER TRAINS will commence.

Trains will leave Ekker at—

8 15 a.m.	
10 15 "	
11 30 "	
3 15 p.m.	
10 15 "	Mail.
7 0 a.m.	
5 15 p.m.	

For London, Clonsmeater, Bath, and Bristol.

For Bath and Bristol.

And the following changes will also take place:—

The 4 45 a.m. Goods Train from Bristol to London, will leave Bristol at 2 30 p.m.

The 7 45 a.m. Train from Bristol to Ekker, will leave Bristol at 7 a.m., and the 7 p.m. Train will leave Bristol for Ekker at 6 15.

On Sunday the 4 a.m. Train will leave Bristol for Ekker at 7 a.m., and the 10 45 a.m. Train will leave Bristol at 9 30 a.m.

On week days there will be an additional Train from Paddington to Slough at 6 p.m., and on Sunday at 6 30 a.m.

The 2.45 Maidenhead departure for London will be altered to 6 p.m. from South. The 7.30 Maidenhead Train will leave at 8.20 p.m. for London. The Train from Charnock at 2.45 p.m. will start for London at 6.45 p.m. Time Table may be had at any of the Railway Stations on, and after Saturday, 27th April inst.

By order, C. A. SAUNDERS, Secretary.

**LONDON, WOOLWICH, AND GRAVESEND RAILWAY,**  
via BLACKWALL.  
Capital £100,000, in 15 p.c. shares at £6 6s. 6d. each.

PROVISIONAL COMMITTEE.

James P. Hogg, Daniel, Esq.  
George Thomas Elmes, Esq.  
Francis Macgregor, Esq.  
(With power to add to their number.)

ROBESON—Geo. Strickland, Esq.  
ARCHIBUTT and BUCHAN—William Tice, Esq.  
ROBESON—Messrs. Smith, Payne, and Smith.

COLLECTORS.  
Messrs. Stokes, Haddingworth, Tyerman, and Johnston, 24, Caledonia-street.

PROSPECTUS.

Various suggestions have from time to time been made for the formation of a railway communication between London and Gravesend. These projects have failed by reason either of the impracticability of the plan, or the great cost of the line.

The line is seventeen miles in length, making the distance by this and the Blackwall Railway, from Greenwich to the centre of the City, somewhat less than twenty-one miles. With the exception of about three miles, the proposed railway runs through marsh land on a dead level; it commences on the Kentish side of the Thames, immediately opposite the terminus of the London and Blackwall Railway, with which it will be connected by a steam ferry. The width of the river at this point is about five yards, so that a constant communication will be established between the two railways, and passengers will be conveyed from one line to the other in five minutes. The railway will then be carried through the marshes to Woolwich, a distance of two miles. At Woolwich there will be three very short tunnels, together about a

It may be objected that a railway cannot compete with a river running in the same direction, and so near as the Thames does to the proposed line, but it is believed that, where the traffic is so enormous as that which is well known to exist between London and the piers above enumerated, this objection will not hold good. From the following calculations it will be seen that passengers may be carried on the proposed railway of far less weight than those on which steam-tugs can be supported, and yet affording a good profit to the railway —

number of passengers to come from London known to have landed and embarked at Grosvenor, in 1941, amounts to	1,250,000
At Epsom, Greenwich, and Northfleet, the numbers are believed to have exceeded	20,000
	1,270,000
Assume that of these only one-third will use the railway, or	420,000

Estimated number of passengers	Estimated number of passengers
166,007	400,000

must be one-third to be first class passengers, of 14. d11,000

The two-thirds second-class, at \$d.	\$6,100
The Woodwick traffic exceeds 2,000,000 annually, at there may that 500,000 will run the railway, and that one-third will be first class, at \$c.	3,100
	1,100
	\$700,000
Two-thirds second class, at \$d.	11,800
Sub the working expenses at 50 per cent.	\$712,800
<b>Net estimated profits.</b>	\$712,800

showing a return of 4½ per cent. on the capital from passenger traffic alone.

The additional receipts from goods traffic most greatly increase the estimated return of profit.

It will be seen that the foregoing calculations are made upon three much better and generally adopted, and that a very moderate proportion of the existing trade and similar estimate, based upon the ordinary Governmental rates—viz., i. 6d. and 1s. and it is well known that at less than these three the boats cannot pay a profit above net profits of 400,000, or 4 per cent. per annum on the capital from passenger fares. It is, therefore, not so generally understood that the proposed scheme will bring in a profit of 100,000, or 10 per cent. per annum on the capital, 200,000. From the estimates already made, the committee have every reason to be sure that the whole work will be completed even for less than £250,000, and they urge themselves to the authorities, that, previously to going to Parliament, it should be ascertained whether the proposed passenger and goods rates would afford a sufficient security for the redemption of the whole of the loan of £250,000.

the completion of the railway, including, of course, the purchase of property and all events, within the present estimated capital; and that should the construction be proceeding substantially in conformity with such plans, the authorities shall be empowered to declare the railway to be a public utility and to be licensed—these powers not to be exercised, under any circumstances, for any other purpose.

The proprietors of the London and Blackwall Railway cannot fail to perceive that the new proposal is of the utmost importance to them, not only will it secure the completion of the railway, but, inasmuch as the Government will give its preference to the special scheme, such position of the Government will not only give publicity to the project, but will also ensure the necessary financial assistance, and on which the Blackwall Railway now depends for its completion.

The deposit of £5,000 per share will be payable on the completion of the shares.

any necessary Agreement and Partnership contract will be at the company's  
for its signature, from the 1st of October to the 31st of November next. Should  
of the contractors wish to execute such approved and contract within that  
time, they should, to the best of their power, be so prepared, that, when  
called thereon, they may be able to proceed thereon, will be immediately sufficient, with-  
out any delay, to be made, and application for them to be made to  
the solicitors, of their office, 74, Cannon Street, London.

4th 28.

FORM OF APPLICATION FOR SHARES.

1st

I, the undersigned, Committee of the London, North and North Western

anyone else will add the  
to those to say to himself to not, not exceeding the above matter, to pay the  
to those to say to himself to not, not exceeding the above matter, to pay the  
to those to say to himself to not, not exceeding the above matter, to pay the

**REYSEL ASPHALTE COMPANY—CLABIDGE'S**  
PATENT—ESTABLISHED 1898.

THE ASPHALTS are bituminous emulsions, obtained from an impalpable sand  
suspended, in the form of emulsion. Previously to the introduction into this coun-  
try, the material had been used for many years in France, Italy, Spain, the  
United States, and elsewhere, and was extensively patronized by the Government of that country.  
Among the various uses to which it can be applied, the following may be men-  
tioned:

[illegible]

<sup>2</sup> Chemistry department and Institute of Medicine are acknowledged for their role and donation of the synthesis of several samples.

100



IN THE ENSUING WEEK.  
PLACE OR METHOD.

SOCIETY.	PLACE OF MEETING.	DAY.	HOURL.
Botanological	17, Old Bond-street.	Monday	8 P.M.
British Architects	16, Grosvenor-street.	Monday	8 P.M.
Chemical	Society of Arts, Adelphi	Monday	8 P.M.
Medical	Boat-court, Fleet-street	Monday	8 P.M.
Linnean	Scala-square	Tuesday	8 P.M.
Naturalists	21, Regent-street	Tuesday	8 P.M.
Civil Engineers	25, Great George-street	Tuesday	8 P.M.
Society of Arts.	Adelphi	Wednesday	8 P.M.
Geological	Tenison's Lane Tavern	Wednesday	8 P.M.
Royal	Bowdler House	Thursday	8 P.M.
Antiquaries	Bowdler House	Thursday	8 P.M.
Art Society of Literature	31, Martin's-place	Thursday	4 P.M.
Medical Botanical	22, Mark-lane street	Thursday	8 P.M.
Royal Astronomical	Bowdler House	Friday	8 P.M.
Royal Institution	Albemarle-street	Friday	8 P.M.
Political	69, Pall mall	Friday	8 P.M.
Social Antiquity	14, Grafton-street	Saturday	2 P.M.
Royal Botanical	Regent's-park	Saturday	4 P.M.
Mathematical	Crispin-street, Spitalfields	Saturday	8 P.M.

**THE MINING JOURNAL** is regularly published about Two o'clock on a Saturday afternoon, at the office, No. 28, FLEET-STREET, where it can always be obtained and there is no cause for irregularity in its supply, in towns, either than notified on the part of the agent through whom it is ordered; but, on requests for transmission, in country subscribers, the blame is placed with the Post-office authorities.

**LEADS SEABOARD MARKET.**—Our usual report, from Messrs. R. E. Watson and Co., has not reached us this week.

**LAW OF JOINT-STOCK COMPANIES.**—The continuation of this series of papers—ex-  
planatory of the liability and responsibility of directors and shareholders—is un-  
avoidably postponed until next week.

**ERRATUM.**—In Mr. Rogers's paper on the Real Elements of Nature, in last week's Journal, twelfth line from top of fourth paragraph, "spirit and water," should have read "spirit and matter."

\* G. R. "Festina in the Pastories."—Our columns are always open to the refutation of opinions expressed by correspondents—for the corrections of which we in no instance decline ourselves, unless so expressed at the time.

\* *Chromid* (Chambers).—We have reason to believe, that an announcement through our columns will find a purchaser for both the native and sulphured of himath.

\* T. W. M. (East Lothian).—Any local bookseller can procure a copy through his  
town agent; it was published by Messrs. Longman and Co., of Paternoster-row.  
\* M. H. (Bedroth).—The Number is out of print, and we, therefore, cannot say

"C. H." (Cheltenham).—The table shall be prepared and published in an early No.

\* A Constant Reader and Subscriber " (London).—We will endeavour to make the

necessary arrangements, to meet the views of our correspondents—a similar request having been made by others interested in the same mine.

The letter of "An Impudent Proprietor," in reference to the Dublin and Kingstown Railway, only arriving this morning, most, of accuracy, stand over—as also several other communications by the same post.

**THE ILLUMINATED MAGAZINE.**—This monthly production is always welcome; and

each successive number confirms the truth of what we have from the first maintained—that it is the cheapest, and one of the best, of that description of our periodical literature, to which it has formed an pleasing addition. The literary

LONDON PHARMACEUTIC MAGAZINE.—The Number of this journal for the present

**MONTHLY FOREIGN MAGAZINE.**—The numbers in this journal in the present month contains some excellent papers, among the first of which we may name one on Mining for Cuzco in Spain, by Mr. W. Walton a gentleman to whom our readers are indebted for a series of valuable papers on Spanish Mining;—on Rail.

way Communications through France - on the Arts and Manufactures of the Kingdoms - Observations on the Various Theories of Global Motion, &c. - with reviews, fine arts, and miscellaneous intelligence. We shall next week extract

**Mr. Walton's paper entire, as being one of great interest to our readers.**

month's Number. Among the contents, we find papers on the survey of the Northern Districts of New Zealand, with an original map—on the Pease Run on the Effects of the Agricultural System hitherto pursued in Jamaica—on the Agri-

culture of Mississippi—on the Intellectual Powers of the Negro—to the Operations of the United States Mint—besides others, with a variety of miscellaneous information. Such a selection seemed well calculated to give the work as one of value to students, as well as of considerable interest to the numerous readers in this

LONDON, MAY 4, 1944.

We last week contemplated being in a position to offer some observations on mining operations in the eastern district of Cornwall, but, while we regret that we are unable to act in accordance with our desire, yet we feel well assured that the time devoted, to not merely a *surface survey* (to which cause the absence of more lengthened remarks is to be attributed), will be found not to have been *ill-spent*.

It is only necessary for us to state, that at the moment of writing we are at Fowey Consols, having devoted four days to this immediate district, of which more anon; while, on our return, we purpose visiting the Tamar Consols, the Caradons, Liskard Consols, Marke Valley, the Phoenix Mines, and a lot of other "bals," not forgetting Wheal Norris. That abuses deserve and call for exposure, is, we believe, admitted even by those whose vocation it is to "gull" the public—and, having collated some information on the spot, our readers may prepare themselves for a slight *exposé*.

Already have we visited the mines in the Callington district—and, as before observed, having devoted four days to the acquirement of information connected with Fowey Consols, West Fowey, and Par Consols—while, at the same time, we have not been idle in directing our attention to the harbour at Par, the canal, railway, and viaduct—we may fairly conclude that some notes from our *diary* will prove interesting to the readers of the *Mining Journal*.

We do not propose entering on either one or other of the subjects which have come under our notice until we have more leisure—every hour being employed, in not only personally investigating the information with which we are furnished, but in the acquisition of practical opinions—in to which we may add, the inspection of accounts, which latter has been most liberally accorded to us by J. T. TAPPAN, Esq., and the agents of the mine under his management—while we take the present opportunity of expressing our thanks to Captain DAVIS, R.M., for several “notches,” as regards system in accounts, to which we purpose hereafter drawing the attention of adventurers, but more especially that class of adventurers who are termed arrichollers.

Apologizing for thus writing a postscript to precede the letter, we can only assure our readers, that on our return next week we shall be in a position which will satisfy them that our time has not been *et cetera*—and that, regardless of the one interest or the other, a faithful report will be rendered of our "Doings in the West."

**CERTIFIED MAILMAN SHOOTING**.—It will be recalled, that Mr. Williams, of Northville, was arrested on the last Christmas Eve, on account of a conspiracy of certifiers and other explanations, in which a woman was an active participant. He was brought to the jail here in the Central Queen's Street, where, where the prisoner of arrested, an officer will be an arrested to be imprisoned for three months.

USUAL ABUNDANCE OF LARVA.—A remarkable phenomenon, which has been observed during the present year, on this shore of the Baltic, has been a season of great profit to the inhabitants. The earlier gathering has been more productive than it is accustomed ever to have been. In the village of Sahlberg, where the earlier gathering is formed, a quantity of larvae, estimated to value at 25,000 shabers, have been obtained within the last few weeks. Probably the earliest larvae that have prevailed this year, especially during the month of December, have brought their owners up to the top of the ladder of life.—*Edinburgh Journal*.

[FROM A CORRESPONDENT.]

At the meeting of the Institution of Civil Engineers, on Tuesday week, a report was read (in accordance with the request of the president, when the subject was under discussion in June last) of the result of some experiments made under the superintendence of Mr. Barry, of the London and Birmingham Railway, at Wolverton, on the comparative strength of hollow and solid railway axles. The result of these experiments showed that the solid axles resisted the effects of torsion more than the hollow ones, and that while the journals of the hollow axles were broken by fifteen and seventeen blows respectively from a 30 lb. sledge hammer, a solid axle received 374 blows from the same hammer before it was broken. All the axles experimented upon were made from precisely the same quality of iron, by the Patent Shaft and Axle-Tree Company of Wednesbury. A report was also stated to have been received from Mr. McConnell, of the Birmingham and Gloucester Railway Company, of experiments made, for his own satisfaction, on an axle, also made by the Patent Shaft and Axle-Tree Company, without any knowledge that it would be subjected to such trial. Mr. McConnell's report having been printed, was not read at the meeting, printed documents being excluded by the rules of the institution, but, as the subject is one of much interest to those connected with railways and the public generally, we subjoin a copy. The following is the statement of the experiments made by Mr. Barry, at Wolverton:—

Tom hollow and ten solid axles were sent by the Patent Shaft and Axletree Company to Mr. Bury, and the lathe work was done under that gentleman's superintendence. The conditions of the manufacture of the hollow axles was tested by two having been cut longitudinally through their centers

A hollow and a solid axle were then placed alternately in a frame with each journal, in a firmly fixed block, and levers were fixed on the wheel seats in opposite directions. The length of the levers from centre of axle to centre of chain for suspending the weight was six feet; weight of lever, 158 lbs.; weight of chain, 29 lbs.—Total, 187 lbs.

	Hollow.	Solid.
Diameter of the axle.....	$\frac{3}{4}$ inches.	$\frac{1}{2}$ inches.
Journal.....	2 1/2	2 1/2
Wheel axle.....	2 1/2	2 1/2
Length of journal.....	2 1/2	2 1/2
Weight of axle.....	180 lbs.	200 lbs.

The deflection was at a radius of two feet from the centre of the shaft. With a weight of 6 cwt. the deflection in the hollow axle was  $\frac{1}{2}$  of an inch, in the solid axle none; with a weight of 14 cwt., the deflection in the hollow was  $\frac{1}{2}$  of an inch, with a permanent set of 3.16 lbs., and on the solid axle 5.16th of an inch, without any permanent set. When the weight was increased to 22 cwt., the deflection of the hollow axle was 1 7-16, and of the solid 1 9-16, each of them having a permanent set of  $\frac{1}{4}$  inch. The torsional effect of 22 cwt. was equal to 85 tons.

Experiments were then tried upon the journals of the axles, dimensions and weights as before; they were firmly fixed on wheels, and the outside ends struck with a 30 lb. hammer. The first hollow axle fractured after receiving 15 blows, and the journal broke with six further blows. The second hollow axle fractured after receiving 17 blows, and the journal came off with 14 further blows. A solid axle then received 108 blows on the end of its journal without being fractured or much bent. It was then turned over, and received 108 blows in an opposite direction, bringing it into its original position without a fracture. It was then turned to the other quarter at right angles, and received 87 blows, still without a fracture; it was then struck 87 blows in the place where the first 108 blows were given, which brought it off. The iron exhibited a fibrous texture in a longitudinal direction.

Mr. McConnell's experiments, made in September last, were with a patient axle, taken indiscriminately from forty supplied to the London and Birmingham Railway Company by the Patent Shaft and Axle-Tire Company. The axle was placed in a pair of tender wheels and weights suspended from a lever, commencing with a weight of 347 lbs., equal to a torsional effect of fifteen tons, and gradually increased up to 1761 lbs., giving a torsional effect of 70 tons. The deflection, with the weights up to 700 lbs., was scarcely observable; and, with the extreme weight of 1761 lbs. it amounted to only eleven sixteenths of an inch, with a permanent set of three-sixteenths. Several blows were then given with a weight of 316 lbs., let fall from a height of 4½ feet, and afterwards from a height of nearly 9 feet on the opposite side. The journal, after receiving 18 or 20 blows, was then turned at right angles, and broke off with the first blow, exhibiting a fibrous fracture, and solid in the centre. The journal on the opposite end of the axle was then tried with blows of a hammer, 226 lbs. weight, and, after 100 blows, was bent about three-eighths of an inch. It was then turned one-fourth round, and was bent, by 100 blows, three-sixteenths of an inch. Two other angles were then subjected to the same number of blows, and, after receiving these 400 blows it remained without a fracture. An old axle marked *best scrap*, was tried on one of the journals, with hammer of same weight, and broke with 20 blows, the fracture presenting a crystallized appearance; this axle had been fattened with flat bars. Journal 6½ inches long and 2½ inches diameter. An old axle marked *P* was next tried on the journal, which broke with 36 blows of same hammer, fracture presenting a fibrous appearance. Journal 6½ in. long and 2 3/8 in. diameter.

It was thought by some of the members that the cause of the comparative weakness on the hollow axle arose from the difficulty of preventing the inequality on the inner surface, and that it would be satisfactory if further experiments were made on hollow axles, in which particular attention was paid to this point.—A paper was read, communicated by Mr. Glyn, detailing the particulars of two accidents on the Midland Counties Railway, from the breaking of axles, which led to a discussion on the change that took place in the structure of iron by vibration; and several instances were given by Mr. Glyn and others, showing that such a change did gradually take place, and that iron, originally tough and fibrous, became, under the influence of vibration, brittle and crystalline.

THE COLLIERIES STRIKE.—We have no material alteration to record in this unfortunate affair, beyond, perhaps, a petty general belief in the prospect of its being speedily brought to a close. The men have as yet refrained from any actual outburst, but the opposition they afford, compel those following their employ to seek the protection of the police.—A correspondent, from Sheffield, informs us that "he has a number of men now at work under protection of the police, harassed with yells during the day, from women violently, and at night parties of both women, men, and boys, assembled, and abuse them on their return by throwing stones; one man they put into prison, but afterwards let him go, so that he would not appear against them; which, in common with others, that it will not continue long—many men are positively weary of the Union."—In the Court of Queen's Bench, on Monday (in the case of Isaac Turfitt and others, who had been convicted by the Locomotive Justices), the Court, after hearing counsel on both sides, ordered the discharge of one man, and took time to consider as to the others.—On the following day, the case of Capetwater and others came on, when Lord Justice Denman expressed his judgment of the court, that they ought to be discharged—upon the ground that the warrants of commitment did not state that the commission took place in the presence of the defendant, and that the absence of such an allegation was a defect as important as to signify an omission of the Justices. This decision will, of course, be considered as a triumph by the distressed men, and may, accordingly, tend to lighten the burden of the restrictive enact on *Amos's Journal* for the numerous persons who

THE ST. HELEN'S CHALLENGE REJECTED.—The trial of John Keworth, late President of John McMillan, Thomas Burnham, James Leyland, James Moffat and William Wren, for having been concerned in the late railway strike at St. Helen's, took place at Keworth's residence, before the Rev. Rector of the Rev. Mr. Fox, Rector, Thomas King, and a respectable jury. There were five accusers in the indictment. The first stated that the defendants, together with others, were guilty of a riot, and with having used several persons; the second charged a conspiracy to raise the rate of wages of colliers, and in pursuance of that conspiracy with having assaulted several persons; the third stated that they were guilty of an assault on the police constables of St. Helen's, while the latter were in the execution of their duty; the fourth was similar to the third; and the last count charged that with a common assault. Mr. Rector, started the case, after which approximately large number of witnesses, consisting of police constables, coal-porters, and St. Helen's colliers, were examined. The evidence on the part of the prosecution, having closed, the Rector addressed the jury on behalf of the defendants, when the evidence examined up, and the jury after a very short deliberation, returned a verdict of not guilty of a riot, and a verdict of not guilty of a riot. Mr. Rector stated that the judgment be required, either that a writ of habeas corpus be granted, or that the judgment be affirmed in the name of Queen's Bench. The Chairman granted the application, upon the understanding that the defendants should make such arrangements, as the Court of Queen's Bench, and the question is still open, as to what to do in respect to the defendants. The promised proceedings were not held in the anticipated time.

## ON THE COST AND PROBABLE VARIATIONS IN THE PRODUCTION OF

THE PRECIOUS METALS.—Without being able to furnish any medium figures of strict exactitude, the calculations on the actual cost of the produce of silver, in the principal districts mentioned in the preceding chapter, are nevertheless sufficient to estimate the necessary expense by obtaining a given quantity of silver; but this approximative valuation must be limited to the principal method of treatment—*viz.*, the amalgamation by the cold process, in considering as causes of diminishing the cost of the extraction of the mineral, the value of the gold and the quantity of silver obtained at a less expense by the amalgamation by the hot process, or by fusion, when the ore, by its mineralogical composition, or its richness, can be submitted to either of these two sorts of treatment. The cost of the gold produced in Mexico cannot be valued abstractedly; up to the present moment, the greater portion of the produce of this metal is the result of a metallurgical operation, which completes the treatment of the silver ore. It must, however, be observed, that this complement, in place of being an augmentation of expense, is a lessening of the expense of the principal operation—the gold here being analogous to lead, which is seen in certain galenas rich in silver; those of Pontijihand, for instance, represents a value inferior to that of the latter metal, which is, in fact, the chief end of the extraction and reduction of the ore. After the preceding, it will be perceived that, at the present moment, the chances of variation in the produce of gold and silver can be examined without separating these two metals one from the other; but, if this question is considered in a future of some distance, this examination must be divided. At present, the proportion of gold obtained by washing is of small extent in Mexico; we should, no doubt, find it became very important, if the north-west parts of the republic were in a more advanced state of civilisation. What has passed for several years in Siberia, would lead to a prediction of the development of which the production of ore would be capable in the department of La Sonora, if we could, as in Russia, dispose of a great number of hands. To give a reason for this assertion, I will place here a short abstract of the interesting observations contained in the book lately published by M. de Humboldt on Central Asia, for the researches of this learned and indefatigable man on the precious metals seem to occupy him as constantly as the study of the rocks in all parts of the globe, and we may now say that the Cordilleras of Mexico are connected by a similar name with the chains of the Ural and Altai. Notwithstanding the immense distance which separates this part of America from Central Asia, it is but the same species of rocks which include the precious metals; only those of Altai present an analogy more marked with those that one finds to the east of Mexico, whilst the rocks of the Ural are more identical with those which can be observed throughout the long metalliferous line which I have drawn on the chart of Mexico—so much so, that there is no sensible difference in these two grand deposits of metallic riches, but the presence, in Russia, in the enclosing rock, of veins of granite, traversed by portions of auriferous quartz, whilst in Mexico I do not believe that quartz has been seen, which is the most ordinary gangue for silver, and especially for gold, accompanied or traversed by granitic dykes. In Asia, as well as in America, the gold mines, so called, are not a fruitful source of labour, and the exploring of mines in the rock have been abandoned. In order that the research for gold should turn out profitable, it is necessary that Nature should have taken on herself the labour of the mine—and, we might almost say, of the metallurgist—by breaking into small fragments the enclosing rock, and the gangue of the superficial of the auriferous veins, and by executing this trifling on the spot, with the assistance of that formidable power which has caused volcanic convulsions, subsequent to that cataclysm to which must be referred the raising up of the principal chain. It is by the aid of this hypothesis, and resting on observations, the details of which cannot find themselves here, that this illustrious geologist explains the composition and the formation of the auriferous sands, which, in Siberia, have already furnished, by mere washing, very considerable quantities of gold, the proportion of which, for some years, has increased in an astonishing degree. These deposits of auriferous sands, which, from the form of the ore of which they are composed, seem to have been transported by currents of no great violence, are found at different distances, in a space comprised between the 48° and the 51° of latitude, and within a breadth comprising 37° of longitude; but the zone of the greatest richness seems, at the latitude of 53°, to extend between the 63° and the 93° of longitude. These alluvials rest on rocks of different sorts, in which no veins are observable on the points covered by these deposits; the dimensions of the beds are very various, and form, in general, oblong cones, the proportion of the width to the length of which, in the great alluvials (in those which exceed 250 fathoms), is as 1 : 20—in the shorter ones as 1 : 12. The medium capacity of the auriferous beds of the Ural, being from 0.00001 to 0.00006 in richness, varies from three and a half to five feet. As the exploring goes only from ten to fifteen feet, in general, they practice it in open air. The bed which merits being explored, forms constantly but a feeble proportion of the total deposit; this bed is either found immediately beneath the soil—even adhering to the roots of the graminaceous and aquatic plants—or covered with turf; at other times it occupies the middle of the total alluvial, and is separated in the most decided manner from the superior and inferior strata which are void of metals. The most important characteristic of this sort of land is the mixture of fossil bones of ancient pachyderms, and of this sand containing gold. The principal sorts of minerals which these alluvials contain, either in crystals, amorphous grains, or laminae, are gold, platinum, tellurium, osmium, copper, diamonds, iron, silex, pyrites, chalcob, chroma, quartz, &c. The custom of washing the mineral may be traced back to 1771, but it did not get into any importance till a later period, since, during the year 1816, all the Ural furnished only 5 pounds 35 lbs. (or 27 kilogrammes, equal to about 225 lbs. English) of gold from the auriferous sands. The produce from 1810 to 1823 was 40 pounds, whilst in the twelve years comprised between 1827 and 1838, the total produce of gold sent to the mint of St. Petersburg, from the factories of Ural and Siberia, was 4430 pounds; for 1843, the supply was estimated at 370 pounds. The ordinary tenure of this gold from washing is 88 per cent. of gold, and 9 per cent. of silver. Amongst these sands have been discovered, at different times, nuggets of gold of different sizes; the most extraordinary was that found on the 7th November, 1842, at three metres in depth, under one of the angles of a washing-pan, which was pulled down to wash the sands in which it had been caught, and the prodigious richness of which amounted to 70 cubites (36 kilogrammes, about 80 lbs. English). This monstrous pebble weighed more than 150 Spanish marks, a weight which surpasses greatly that found in 1821, which amounted to 21 kilogrammes, as well as that found in 1822 at St. Domingo, in the alluvial of the Rio Hayne, and which weighed but 15 kilogrammes (about 34 lbs. English). These valuable discoveries, however, easily from the instructions M. de Humboldt will set on, undoubtedly, to compare the sands of La Sonora with those of Russia. The presence of chroma, observed long ago by M. Andrea del Rio, in an ingot of gold brought to Mexico, from some unknown port, is an index of the similarity between these two positions, which ought not to be neglected; however, after certain trials which I have made on grains of gold rolled down from the washings of La Sonora, I think the gold is found in this natural alloy in a proportion more considerably than in that of Siberia; these researches have given me an ordinary figure of nearly 9/100, but that I have not determined the proportion of silver and other substances. The composition of the places which surround the Ural seem to have presented less auriferous deposits to spread themselves over a very large extent; in La Sonora these deposits must have been placed in spots more circumscribed, and in the valleys, generally very narrow, which form the branches of the principal chain. There, where these valleys have become more capacious, the torrents or streams passing over must have worn them changed into beds, by the heat of the banks of sand which they produce in their course. These waters, after up something in narrow gullies, must have spread themselves over a great part of the surface of the more open valleys, in depositing there considerable quantities of auriferous richness, transported by the force from the place of their production. These details must be studied as they spread over plains across the ridges, the repetition of which becomes deepened; at this distance, next to the rocks which, where there, the portions of gold may have given rise singular forms (which are seldom found after a long transition affected by the waters), in presence of fragments of such veins or low land and compact.

**THE CHINA TRADE.**—By the *Messrs. de Commerce*, last night, *Only*, Wood received a petition from the *most* *honorable* of *Landed*, against *any* additional *in* *the* *same*; and by the *same* *office* from *Victoria*; and one *also* from the *Chinese* *Consul*.



[illegible]



of the price by taking the form of a small share, which is introduced to the  
in a continuous way placed around the body—the last the distance called the  
of the body of the share holder, and the distance between the body



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